

BATTERY LIFE EXTENDING TECHNIQUE FOR
MOBILE WIRELESS APPLICATIONS USING BIAS LEVEL CONTROL

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10 ABSTRACT OF THE DISCLOSURE

An operating voltage applied to a transmitter's power
amplifier in a mobile wireless transceiver is dynamically
controlled so as to improve the efficiency of the transmitter
15 at all output power levels. In one embodiment, the bias
current levels within the transmitter are also varied to
optimize the efficiency of the transmitter at all output power
levels. In a preferred embodiment, a highly efficient
switching regulator is controlled by a control circuit to
20 adjust the operating voltage and/or bias current for the power
amplifier in the transmitter. The control circuit has as its
input any of a variety of signals which reflect the actual
output power of the transmitter, the desired output power, or
the output voltage swing of the transmitter.

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